3.9 Hazardous Materials

Review of EIS Section and Previous Analysis

The 1992 Final EIS was prepared before the WSDOT *Environmental Procedures Manual* (WSDOT, 2005e) and the *American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E 1527-00) were published. The methodology for the 1992 analysis included reviewing the following:

- Selected property records
- EPA and Ecology hazardous site inventories
- WSDOT construction and spill records
- Relevant planning documents from the City of Redmond and King County
- Local historical society records

The project site was visited to survey adjacent land uses and site conditions, and interviews were conducted with individuals and agency or private-sector staff familiar with the study area. The 1992 agency records review did not identify any generators of hazardous waste or any contaminated sites. Two underground storage tanks (USTs), one containing gasoline and one containing diesel, were identified on an adjacent property occupied by a painting contractor. Identified potential construction impacts included encountering contamination not identified in the records review, and releasing hazardous materials or petroleum products during construction. Identified potential operation impacts included reducing accident-related spills or releases of hazardous materials on the highway as a result of safer operating conditions.

Mitigation measures identified in the 1992 Final EIS included environmental audits and site investigations for properties to be acquired by WSDOT. To protect against hazardous material spills during construction, mitigation included requiring the construction contractor to have a current spill prevention plan and a designated on-site emergency coordinator, as well as response measures and equipment in place to address possible spills or previously undiscovered contamination.

Methodology

The effects of hazardous materials, hazardous wastes, and contaminated environmental media on and resulting from the project were evaluated. These effects might involve a release or threat of release of contaminants during or after project construction that would harm human health or the environment. Identifying and evaluating possible effects during the SEPA process allows mitigation measures to be identified that might include identifying areas that require additional investigation, construction measures to protect human health and the environment, or other protective measures that reduce environmental liability and associated costs for WSDOT. The hazardous materials analysis included the following tasks:

- Identifying potentially contaminated sites in the study area by reviewing regulatory agency database lists
- Reviewing Ecology site files for identified sites within one-half mile of the preliminary right-of-way centerline
- Conducting a visual reconnaissance from publicly accessible areas
- Summarizing environmental conditions at the primary known or suspected contaminated sites within the study area
- Evaluating potential effects that known or suspected contamination might have on project development
- Identifying mitigation measures to avoid or control the adverse effects of hazardous materials on the project

Coordination Efforts

A request was made to Ecology to review files for sites identified in the environmental regulatory database search that are located within one-half mile of the project centerline. The files were reviewed at Ecology's Northwest Regional Office. No additional coordination with the Ecology or other agencies was conducted.

Affected Environment

Hazardous material, hazardous waste, and confirmed or suspected contaminated sites were identified in the study area. Table 3.9-1 summarizes the databases reviewed, the specific distances searched, and the total number of sites within the search distance. Environmental Data Resources, Inc. (EDR) assigned a map identification number (map ID) to each site; these map IDs are used throughout this section. A copy of the EDR report is included in the *Hazardous Materials Summary White Paper* (CH2M HILL 2006a). Figure 3.9-1 depicts the locations of these sites relative to the study area, and Table 3.9-2 summarizes the reasonably predictable, substantially contaminated, and potentially contaminated sites within a one-half mile of the study area. "Substantially contaminated" sites are those that would create a major liability for WSDOT either in construction liability or by virtue of acquiring all or a portion of the site. If the site has undergone a detailed investigation and a feasibility study, then the impacts and remediation costs might have already been predicted. Nonetheless, the site would be identified as substantially contaminated because of its substantial impact or liability (WSDOT 2005e). One site, Bear Creek Cleaners (map ID 31), meets the definition of a substantially contaminated site within the study area. File records indicated that halogenated volatile organic compounds (VOCs) exist in groundwater. Groundwater flow was reported to the west-northwest (Golder 2000). Additional file information is summarized in the *Hazardous Materials Summary White Paper* (CH2M HILL 2006a).

Source: EDR Environmental Data Resources Inc.

Project Footprint (Edge of Pavement)

Study Area (Within One Mile of Project)

Listed Environmental Agency Database Site

N

0 1/4 1/2

Scale in Miles

FIGURE 3.9-1
Project Footprint and Environmental Agency Database Sites

SR 520/West Lake Sammamish Parkway to SR 202

TABLE 3.9-1
Results of Agency Lists Reviewed

List	Acronym	Search Distance	Number of Sites on the List
National Priority List	NPL	1 mile	0
Comprehensive Environmental Response, Compensation, and Liability System List, including No Further Remedial Action Planned	CERCLIS	1 mile	0
	CERCLIS-NFRAP	1 mile	0
Emergency Response Notification System	ERNS	1-half mile	0
Resource Conservation and Recovery Information System: Storage and Disposal Facilities Lists and RCRA Corrective Action Reports	RCRIS/CORRACTS	1-half mile	0
RCRIS: Small Quantity Generators	RCRIS-SQG	1-half mile	85
RCRIS: Large Quantity Generators	RCRIS-LQG	1-half mile	11
RCRIS: Treatment, Storage, or Disposal Facilities	RCRIS-TSD	1-half mile	0
Confirmed and Suspected Contaminated Sites List	CSCSL	1-half mile	7
CSCSL Sites Designated as No Further Action	CSCSL-NFA	1-half mile	11
Washington State Solid Waste Facilities and Landfill Sites Database	SWF/LF	1-half mile	0
Washington State Hazardous Sites List	HSL	1-half mile	0
Washington State Independent Clean-Up Report Database	ICR	1-half mile	18
Leaking Underground Storage Tanks	LUST	1-half mile	11
Registered Underground Storage Tanks	UST	1-half mile	34
Voluntary Clean-Up Program	VCP	1-half mile	8
U.S. Brownfields Database	US Brownfields	1 mile	1
Toxics Release Inventory System	TRIS	1-half mile	1
Washington Department of Ecology Emissions Data System	WA Emissions	1-half mile	0
Nonconformant Solid Waste Landfills and Disposal Sites	SPILLS	1-half mile	7

Source: EDR Report, September 2005 (CH2M HILL 2006a)

TABLE 3.9-2
"Reasonably Predictable" or "Substantially Contaminated" Sites Within One-Half Mile of SR 520 Study Area Centerline

Map ID	Site Name and Address	Agency List	Contaminated Media	Contaminant	Depth to Groundwater (bgs)/ Flow Direction	Clean-Up Status ("Reasonably Predictable" unless otherwise noted[1])
1[2]	Maryhew Property, 8611 Avondale Road	WA ICR	soil	petroleum	N/A	Final clean-up report 3/23/1993
1[2]	Knight Property, 8621 Avondale Road	WA ICR	soil	petroleum	N/A	Final clean-up report 3/23/1993
3	United Parcel Service-Redmond, 18001 NE Union Hill Road	FINDS, RCRA-LQG, LUST, UST	soil	petroleum	N/A	Clean-up started 6/1/1995
5[2]	A&A Foreign Auto Repair, 8004 Avondale Road. NE	LUST, UST	soil	petroleum	N/A	Reported cleaned up 5/15/2005
5[2]	AA Auto Service Center, 8004 Avondale Road. NE	WA ICR, CSCSL NFA	soil	petroleum	N/A	Reported cleaned up 5/15/2005
8	Cleaning Center of Richmond, 15796 Redmond Way	CSCSL	groundwater, soil	halogenated VOCs, metals	N/A	Ranked, awaiting remedial action 02/2000
13/15[2]	Jackpot Country Store 304, 7725 159th Place NE	LUST, UST, CSCSL NFA, VCP	groundwater, soil	petroleum	N/A	Reported cleaned up 3/2004; NFA 5/19/2004
16[2]	Dennis R. Graig Construction, 7710 185th Avenue NE	RCRA-SQG, CSCSL, FINDS, LUST, UST, VCP	groundwater, soil	petroleum	N/A	Reported cleaned up 10/29/2004
17	King County Maintenance - Redmond, 7733 Leary Way NE	SPILLS, WA ICR	soil	petroleum, waste oil	N/A	Reported cleaned up 6/10/2002
18	Chevron Service No. 9 6388/Gary's Chevron, 16760 Redmond Way	RCRA-SQG, FINDS, CSCSL NFA, VCP, WA ICR	groundwater, soil	petroleum	N/A	NFA 9/11/2000
19	US National Bank of Washington, Bear Creek, 17000 Avondale Way NE	LUST, UST, WA ICR	Groundwater, soil	petroleum, oil, diesel	11 to 16 feet/ east-southeast	Phase II Site Assessment 05/23/1996
19	Minit-Lube No. 1109/Q-Lube, 17015 Avondale Way NE	LUST, UST	soil	petroleum, diesel	N/A	Reported cleaned up 7/19/1999
21	Unocal Redmond Bulk Plant/Commercial Marine, 16631 Cleveland Street	FINDS, VCP, CSCSL, WA ICR	groundwater, soil	petroleum, oil, diesel	14 feet/west	Final clean-up report; monitoring report 6/2005 indicates three-quarters of no detectable groundwater contamination
22	IDD Aerospace Corporation, 18225 NE 76th Street	RCRA-LQG, FINDS	N/A	N/A	N/A	Eight general-generator violations records

TABLE 3.9-2
"Reasonably Predictable" or "Substantially Contaminated" Sites Within One-Half Mile of SR 520 Study Area Centerline

Map ID	Site Name and Address	Agency List	Contaminated Media	Contaminant	Depth to Groundwater (bgs)/ Flow Direction	Clean-Up Status ("Reasonably Predictable" unless otherwise noted[1])
23	Redmond Water System and Maintenance/City Shops, 18080 NE 76th Street	UST, RCRA-SQG, WA ICR FINDS, SPILLS, CSCSL NFA, VCP	groundwater, soil	Petroleum	N/A	NFA 09/21/2000
24	Shultz Distributing Inc., 7822 180th Avenue NE	LUST, WA ICR, SPILLS	groundwater, soil	petroleum, diesel	11to 20 feet/south	Undergoing groundwater monitoring for diesel-range petroleum 1998
25	Unocal Station 4870, 16909 (NE) Redmond Way	SPILLS, WA ICR, CSCSL NFA	groundwater, soil	petroleum	N/A	NFA 10/06/1997
31	Bear Creek Cleaners, 17260 Redmond Way	FINDS, VCP, CSCSL NFA	groundwater, soil	halogenated VOC	24 to 34 feet/ west-northwest	NFA for soil only 09/12/1998; continued groundwater monitoring (last report on file dated 9/2000); **Substantially Contaminated**
32[2]	Sammamish Waterways Condos, 15858 Leary Way	WA ICR	soil	petroleum	N/A	Final clean-up report 5/26/1994
34	Genie Industries Moose Werks, 7140 180th Avenue NE	RCRA-LQG, FINDS	N/A	N/A	N/A	No generator violations found
37	US Postal Service, NE 68th Street/ 185th Avenue NE	WA ICR	soil	petroleum, nonhalogenated solvents, PAHs		Final clean-up report 4/4/1991; Discontinued monitoring determination 1/23/2003
38	Dunkin and Bush, Inc., 17301 NE 70th Street	FINDS, RCRA-LQG, UST, CSCSL NFA	N/A	N/A	N/A	No contamination found - FA 1995
40	Washington Diesel Service, Inc., 17611 NE 70th Street	RCRA-LQG, FINDS	N/A	N/A	N/A	One general violations record
42	ConocoPhillips/Circle K Store 5507 BP Oil/76/Car Wash Enterprises/Brown Bear, 17809 Redmond Fall City	RCRA-SQG, FINDS, CSCSL NFA, VCP	groundwater, soil	petroleum, BTEX	19 to 20 feet/ north and west	NFA 2002; groundwater monitoring in 2004 detected contaminants
46[2]	Unknown, 17950 NE Redmond Way	SPILLS	soil	petroleum	N/A	Unknown 09/14/2005
46	Twin Peaks Equipment/Super Rent, 17950 Redmond Way	LUST, UST, RCRA-SQG	groundwater, soil	petroleum, BTEX	17 to 23 feet/west	Clean-up started 10/15/2003
47	All Green Corporation, 6855 176th Avenue NE, Suite 2	RCRA-LQG, FINDS	N/A	N/A	N/A	No violations found
54	Ho Sports, 17622 NE 67th Court	RCRIS-SQG, FINDS, CSCSL NFA	soil	Petroleum	N/A	NFA 5/15/1996

TABLE 3.9-2
"Reasonably Predictable" or "Substantially Contaminated" Sites Within One-Half Mile of SR 520 Study Area Centerline

Map ID	Site Name and Address	Agency List	Contaminated Media	Contaminant	Depth to Groundwater (bgs)/ Flow Direction	Clean-Up Status ("Reasonably Predictable" unless otherwise noted[1])
54	TTM Technologies, Redmond Division, 17550 NE 67th Court	RCRA-LQG, FINDS, HAZNET, TRIS	N/A	N/A	N/A	One manifest, one records, one all requirements, and eight general generator violations recorded
56	Genie Industries, 17760 NE 67th Court	RCRA-LQG, FINDS	N/A	N/A	N/A	No violations found
57	Bio Rad Laboratory, 6565 185th Avenue North	RCRA-LQG, FINDS	N/A	N/A	N/A	Three general-generator violations records
59	JJ Welcome Construction Company, Inc., 17625 NE 65th Street	UST, CSCSL NFA, WA ICR	soil	petroleum	N/A	NFA 3/31/1995
59	Lake Washington Technical College, 6505 176th Avenue NE	US Brownfields	suspected in groundwater, confirmed in soil	metals, pesticides, petroleum, nonhalogenated solvents, PAHs	southwest	Targeted Brownfield assessment 1/31/200
61	Photo Design, Inc., 17824 NE 65th Street	RCRA-LQG, FINDS	N/A	N/A	N/A	No violations found
63	Marymoor Park, 6046 West Lake Sammamish Parkway	UST, CSCSL NFA, WA ICR, FINDS, VCP	groundwater, soil	PCBs, arsenic	southwest	NFA 1/16/1998
64	Genie Industries Scissors Division, 18700 NE 65th Street	RCRA-LQG, FINDS	N/A	N/A	N/A	Eight general-generator violations records

bgs below ground surface
BTEX Benzene, toluene, ethylene, xylenes
N/A not applicable
NFA No Further Action
PAH polynuclear aromatic hydrocarbon
PCB polychlorinated biphenyls
VOC volatile organic compound
[1]All sites are characterized as "Reasonably Predictable," with the exception Bear Creak Cleaners (Map ID 31)
[2]No files at the Washington State Department of Ecology Northwest Region Office

"Reasonably predictable" sites include those where the nature of the potential contamination is known based on existing investigation data or where it can be reasonably predicted based on observations of the site, and/or experience at similar sites, and/or best engineering judgment. Reasonably predictable sites are typically small to medium in size, the potential contaminants are not extremely toxic or difficult to treat, and probable remediation approaches are straightforward (WSDOT 2005e). Reasonably predictable sites in this report include those properties located within one-half mile of the study area and listed in the agency databases as USTs, leaking USTs (LUSTs), Resource Conservation and Recovery Information System (RCRIS) hazardous waste generators, and Washington State Independent Clean-Up Report (ICR) sites that have straightforward remedial options. Analysts included the "reported clean-up sites" or No Further Action (NFA) sites because the no further action determination might apply to a portion of the property (such as removal of one LUST) or the institutional controls in effect after the final clean-up of a site might not be compatible with project construction.

There were 154 sites categorized as reasonably predictable in the study area. These records, including records of violation, are summarized in the *Hazardous Materials Summary White Paper* (CH2M HILL 2006a). Of these, 129 sites had no reported releases (i.e., sites listed on the USTs, Facility Index System [FINDS], or RCRIS lists only); these sites were excluded from further evaluation. The remaining 25 sites that were listed as having potential contamination or releases (i.e., sites listed on the LUST, ICR, Confirmed and Suspected Contaminated Sites List [CSCSL], or Nonconformant Solid Waste Landfills and Disposal Sites [SPILLS] lists) were evaluated further and are summarized in Table 3.9-2. Table 3.9-2 also includes nine sites that were listed in the RCRA large quantity generator (LQG) and FINDS databases because these sites generate more than 1,000 kilograms (kg) of hazardous waste or 1 kg of acutely hazardous waste per month and, therefore, have the potential for a significant hazardous materials spill or release.

Sites that are located within or immediately adjacent to the project right-of-way or are considered to have the potential to affect construction activities due to site location and contaminant characteristics are discussed below. Figure 3.9-1 depicts the locations of these sites and none of the sites are in the WSDOT right-of-way. The site file information is summarized in the *Hazardous Materials Summary White Paper* (CH2M HILL 2006a).

A visual reconnaissance conducted on September 11, 2005, confirmed the locations of sites with environmental concerns identified by the database search. The project footprint is largely bordered by Marymoor Park to the south and an open space along Bear Creek to the north. The area directly south of the intersection between Redmond Way and SR 520 consists of several light industrial and commercial businesses. Construction activities were observed underway directly south of the Redmond Way right-of-way between the intersections of Redmond Way and East Lake Sammamish Parkway and Redmond Way and NE 70th Street. The former Bear Creek Cleaners (map ID 31) was undergoing remodeling at the time of the visual reconnaissance; several monitoring wells were observed in the parking lot. The visual reconnaissance photographs and photograph log are included in the *Hazardous Materials Summary White Paper* (CH2M HILL 2006a).

Impacts

The potential effects resulting from the presence of hazardous materials, hazardous substances, hazardous wastes, or contaminated environmental media were evaluated to assess potential

construction and operational impacts. The significant difference in impacts compared to the 1992 Final EIS is that substantially more contaminated or potentially contaminated sites were identified in 2005. This increase is due to changes in environmental regulatory reporting requirements, agency record-keeping technology, and the new methodology guidance in the WSDOT *Environmental Procedures Manual* (WSDOT 2005e).

The proposed project would be built within existing WSDOT right-of-way. As such, real property or right-of-way acquisition was not identified and possible environmental liability associated with acquisition would be avoided. In addition, no buildings or other structures would be demolished; therefore, mitigation of possible hazardous building materials would not be required.

Construction Impacts

Potential construction impacts could include releases of contaminants to the environment by ground-disturbing or dewatering activities**.** Based on a review of environmental agency information, potential types of hazardous substance contamination that could be encountered during project construction include primarily petroleum-contaminated soil and groundwater but also include other contaminants, such as VOCs. If contamination is encountered and not managed properly in accordance with existing regulations, then there would be a potential impact to human health and ecological receptors. The sites identified immediately adjacent to the project right-of-way are "reasonably predictable" sites where the nature of the contamination or potential contamination is available from files at Ecology (Table 3.9-2). Sites were identified adjacent to the study area that are undergoing clean-up and do not have an NFA determination from Ecology. Additional sites were identified within one-half mile of the project footprint with known groundwater contamination (Table 3.9-2). Included in these sites is a former dry-cleaning site (Bear Creek Cleaners) with known groundwater contamination; this site is west of the stormwater handling facilities to be constructed for the project.

During project construction, excavations below the water table (such as for utility trenches or water control facilities) might encounter uncontrolled hazardous substances. These substances could exist in areas with known contamination, in areas where recorded activities such as hazardous waste generation or fuel storage in USTs might have impacted soils or groundwater, or in contaminated areas not identified in the environmental database search. In such a case, several environmental impacts would be possible. One possible impact would be that unidentified utilities could also exist, which could require managing polychlorinated biphenyls (PCBs) in aboveground transformers, excavating soil, and dewatering during construction. Utility trenches could disturb the subsurface where contaminants might be encountered, resulting in preferential pathways for contaminant migration.

An additional potential impact would be that hazardous substances could be released from equipment during construction. Fuels and oils might be spilled within the study area—a hazard common to all construction projects but particularly acute for the proposed project because it would involve construction over water and would produce stormwater runoff to Bear Creek and the Sammamish River.

Operational Impacts

The hazardous materials discipline team analyzed impacts for contaminated sites that are adjacent to the project, have not completed clean-up, and have not been issued a determination of NFA from Ecology. Sites identified included a former dry cleaner and LUST sites with ongoing clean-up or groundwater monitoring. Acquiring these or other properties is not proposed for this project. Residual groundwater contamination at these sites occurs at a depth of approximately 20 feet bgs and is not expected to directly impact this project.

The project's long-term operation would improve traffic flow and, correspondingly, reduce the possibility of accident-related spills or releases of hazardous materials or petroleum.

Mitigation Measures

Mitigation measures would be used to control, mitigate, or eliminate the potential adverse impacts discussed above. Environmental regulations in place require that contaminated media, such as soil or groundwater, be appropriately managed, hazardous wastes be strictly controlled and managed, and criteria for transporting of hazardous substances be established.

Mitigation measures for the identified project impacts would include the following:

- WSDOT would prepare a worker health and safety plan (HSP) to minimize the effects of identified and unanticipated hazardous material impacts from contaminated environmental media. Further WSDOT would also prepare a comprehensive contingency and hazardous substance management (CHSM) plan if required by permit); if that is not the case, then WSDOT would operate under the existing policies specified in the *Environmental Procedures Manual* (WSDOT 2005a) and the *Safety Manual* (WSDOT 2005f).
- WSDOT would implement construction methods that minimize disturbance to the subsurface, prevent the transport of possible contaminants to uncontaminated areas, and minimize the volumes of soil or water that require treatment or disposal. These techniques should address dewatering activities, site grading, site excavation (in particular for water quality and flow control structures and utility trenches), piling installation, stormwater pollution prevention, and spill prevention.
- WSDOT would identify any electrical transformers and determine the presence or absence of PCBs in them. Identified PCBs would require management in accordance with applicable regulations.
- WSDOT contractor would prepare an SPCC plan to help prevent release of hazardous substances to the environment, in particular for over-water work, and a stormwater pollution prevention plan (SWPPP). These plans would be reviewed and approved by WSDOT engineers.